healthy children of every age for each of the twenty-two muscle groups to be tested.

Children under the age of four or five cannot be tested as a rule, and there is no satisfactory method of testing the muscles of the abdomen, back, and neck, or those of rotation. Thus there are limitations to the method, especially when one adds that very weak muscles do not give a reading.

The time required for a complete examination is about one hour and depends largely upon the skill of the operators and the docility of the patient. The accuracy of the tests depends entirely upon the skill of the operators, but so great is the personal equation that two well-trained teams examining the same patient would be liable to give results showing considerable variations. Consequently it is necessary whenever possible to have the same team examine the same patient on every occasion. It takes at least a month of steady work to train a team of workers to any degree of proficiency.

The apparatus is simple and inexpensive and consists chiefly of three sizes of accurate spring-balance scales, and a few clamps, etc., for steadying the patient. A solid table is also a requisite.

CASE OF VAQUEZ'S DISEASE

By Dr. R. J. Erickson

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THE patient came to the Royal Victoria Hospital under Dr. C. F. Martin's service on August 9th, 1916, complaining of pain in left side under rib margin, constipation, and gastric pain after eating. There was an increasing weakness and an extreme degree of drowsiness, the patient sleeping most of the time. There was an extremely flushed condition of skin which patient says has lasted over thirty years, and a spleen which has been enlarged for at least ten years. His attention was first called to his spleen by his physician and since that time he has noticed that it has slowly increased in size. He gave a history of gastric hæmorrhage

Read before the Montreal Medico-Chirurgical Society, November 3rd, 1916.

once, a small one, and some bleeding from the lower bowel once. Has a history of marked alcoholism for at least ten years and repeated Neisser infection but no luetic infection. An interesting point in the family history is that this appears to be a family condition, the father had a high colour and the patient has four brothers all of whom are very red and flushed, one as dark, if not darker than the patient. This high colour could be seen all over the face, the scalp, the mucous membranes, the retina of the eye, the hands and feet; the hands when hanging down showed marked cyanosis. The spleen was extremely large and came down 15 cm. below the rib margins in the mammary line, extending to the left of the umbilicus. System otherwise negative; heart and lungs normal, blood pressure normal, 120–70, which differentiates this case from one of Geisbock's disease, polycythæmia with splenomegaly and hypertension. The temperature has been somewhat elevated throughout his stay in the hospital, intermittently sometimes as high as 101°. The urine shows a slight trace of albumin and a few casts. Tuberculin test negative, Wassermann negative. Blood picture:

	Aug. 12	Sept. 19	Oct. 31
Polymorph-neutrophiles,.....	76%	90%	78%
Polymorph Basophiles.....	0.	4.	9.
Polymorph Eosinophiles.....	1.	3.	1.
Small Mononuclear Lymphocytes.	4.	2.	3.
Large Mononuclear Lymphocytes.	6.	1.	6.
Transitional.....	10.	0.	3.
Unclassified.....	3.		

The course of the disease in the hospital showed a definite improvement, which is rather an unusual thing as these cases do not generally improve, it being a very slow progressive disease and lasting a life time, the patient dying of some intercurrent affection. The patient has been given *x*-ray treatment on a purely empirical basis and the pain has entirely left him, the spleen is markedly smaller, has decreased at least 3½ cm. in vertical measurement, and moved from the right side of mid line definitely to the left. The cyanosis has become much less, the drowsiness has left him, he is brighter and takes an interest in what is going on.

A study of this case was made in regard to metabolism by Dr. Maude E. Abbott, showing that the basal metabolism was raised 16 per cent. The blood showed as a most distinctive feature a high cholestereal content with increased urea and uric acid content. The nephritic test meal showed a low grade of nephritis with fixation of specific gravity at a high level. Ten days ago

there was a slight exacerbation of pain but that decreased rapidly although there is still some tenderness. The liver occupies apparently its normal limit.

This disease was first formulated as a clinical entity by Vaquez in 1892. Later Osler put it on a firm clinical footing by describing a number of cases in which the most common feature and the diagnostic points of importance were the increased red cell count, the large spleen, and the cyanosis. In making such a diagnosis you have to rule out other types in which the red cell count is increased:

Primary: Erythæmia (polycythæmia vera).

Secondary: Emphysema, cardiac decompensation, congenital pulmonary stenosis, in high altitudes, in chronic poisonings (acetanilid, etc.).

After ruling out all these secondary types and showing that the outstanding points are persistent we are justified in calling this a primary polycythæmia. The etiology is unknown. The suggestion has been made that the red cells in some way have lost their power in carrying oxygen satisfactorily, and consequently the bone marrow is stimulated to increased activity. But it has been proved that there is no increased using up of oxygen in the tissues nor are the oxygen carrying powers of the hæmoglobin diminished. So that as far as we know it is something in which the myelogenous elements of the blood are markedly increased, the cause of which is entirely unexplained. Both white and red cells are increased. The pathological findings have been quite negative as far as an etiological explanation is concerned. Tuberculosis has been found in one or two cases; in one case it was proved that the spleen had taken on the embryonic condition of producing red cells. The bone marrow in all cases shows marked hyperplasia, so markedly in some cases that the bones have been thinned from the increase of marrow.

The distinctive features of diagnosis are: the cyanosis, the persistent high unexplainable red cell count, and the enlarged spleen.